FIG. 1

MLATVPSCPLDSRSPSWGSTWLCASGGSWGTASSCMSSSAGRALRGTGDSRHTKMKTATN
IYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVD
RYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPAP
QDYWGPVFAICIFLFSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLV
VVAVFVGCWTPVQVFVLVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYAFLDENFK
ACFRKFCCASALHREMQVSDRVRSIAKDVGLGCKTSETVPRPA

FIG. 2

MESLFPAPFWEVLYGSHFQGNLSLLNETVPHHLLLLNASHSAFLPLGLKVTIVGLYLAVCI
GGLLGNCLVMYVILRQCPENPLRGVLRETEERRQHLSLLIPSTNSHSGTPR

FIG. 3

MESLFPAPFWEVLYGSHFQGNLSLLNETVPHHLLLLNASHSAFLPLGLKVTIVGLYLAVCI
GGLLGNCLVMYVILRQHCALGRSLMNFTGSALKTL

FIG. 4

MESLFPAPFWEVLYGSHFQGNLSLLNETVPHHLLLLNASHSAFLPLGLKVTIVGL
YLAVCIGGLLGNCLVMYVILRHTKMKTATNIYIFNLALADTLVLLTLPFQGTDI
LLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVDRYVAICHPIRALDVRTSS
KAQAVNVAIWALASVVGVPVAIMGSAQVEDEGQWAVLLPDQSVPHGSCRPL

FIG. 5

MLVTAPSCPLDSRSPSWGSTWLCASGGSWGTASSEMSSSAGRALRGTGDSRHTKMKTATN
IYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVD
RYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPAP
QDYWGPVFAICIFLFSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLV
VVAVFVGCWTPVQVFVLVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYAFLDENFK
ACFRKFCCASSLHREMQVSDRVRSIAKDVGLGCKTSETVPRPA

FIG. 6

MPATAPSCPSGSRSPSWGSTWPCVSEGSWGTALSCTSSSGRLGPKVPVWHTKMKTATNIY
IFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVDRY
VAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPTPQD
YWGPVFAICIFLFSFIVPVLVISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLVVV
AVFVGCWTPVQVFVLAQGLGVQPSSETAVAILRFCTALGYVNSCLNPILYAFLDENFKAC
FRKFCCASALRRDVQVSDRVRSIAKDVALACKTSETVPRPA

FIG. 7

MEPLFPAPFWEVIYGSHLQGNLSLLSPNHSLLPPHLLLNASHGAFLPLGLKVTIVGLYL
AVCVGGLLGNCLVMHTKMKTATNIYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALC
KTVIAIDYYNMFTSTFTLTAMSVDRYVAICHPIRALDVRTSSKAQAVNVAIWALASVVG
VPVAIMGSAQVEDEEIECLVEIPTPQDYWGPVFAICIFLFSFIVPVLVISVCYSLMIRR
LRGVRLLSGSREKDRNLRRITRLVLVVVAVFVGCWTPVQVFVLAQGLGVQPSSETAVAI
LRFCTALGYVNSCLNPILYAFLDENFKACFRKFCCASALRRDVQVSDRVRSIAKDVALA
CKTSETVPRPA

FIG. 8

```
   1  tttggcttcc ttctccaacc tgcgcagccc ctccttctct cagccgcagc cttctgcccc
  61  tcccccttct ggctgccgca ctggctgctg cgtctagtca atatcttatc ttcggagcag
 121  gagctaggag ccattcccag ccggagcaga ccccaagcta gagtgagaag cattactcag
 181  ttcattgtgc tcctgcctgc ctttctgcta agcattaggg tctgttttgg cccagcttct
 241  gaagaggttg tgtgtgctgt tggagaact gtactgagtg gctttgcagg gtgacagcat
 301  ggagtccctc tttcctgccc cattctggga ggtcttgtat ggcagccact ttcaagggaa
 361  cctgtctctc ctaaatgaga ccgtacccca tcacctgctc ctcaatgcta gccacagtgc
 421  cttcctgccc cttggactca aggtcaccat cgtggggctc tacttggctg tgtgcatcgg
 481  gggctcctg gggaactgcc tcgtcatgta tgtcatcctc agctgggagg gcattgaggg
 541  gaactggaga cagcaggcac accaagatga agactgctac caacatttac atatttaatc
 601  tggcactggc tgataccctg gtcttgctga cactgcccct ccaggcaca gacatccttc
 661  tgggcttctg gccatttggg aatgcactgt gcaagacggt cattgctatc gactactaca
 721  acatgtttac cagcactttc actttgactg ccatgagtgt agaccgttat gtagctatct
 781  gccaccctat ccgtgccctt gatgttcgga catccagtaa agcccaggcc gttaatgtgg
 841  ccatatgggc cctggcttcg gtggttggtg ttcctgttgc catcatgggc tcagcacaag
 901  tggaggatga agagatcgag tgcctggtgg agatccccgc ccctcaggac tattggggcc
 961  ctgtatttgc catctgcatc ttcctttttt ccttcatcat cccggttctg atcatcctg
1021  tctgctacag cctcatgatt cgacgacttc gtggtgttcg gctgctttca ggctcccgag
1081  agaaggaccg gaacctgcga cgcatcacac ggctggtact ggtagttgtg gctgtgtttg
1141  tgggctgctg gacacctgtg caggtcttca tcctggttca aggactgggt gttcagccag
1201  gtagtgagac tgcagtagcc attctgcgct tctgttcagc cctggctat gtcaacagtt
1261  gtctcaatcc cattcttctat gctttcttgg atgagaactt caaggcctgc tttagaaagt
1321  tctgctgtgc ttctgccctg caccgggaga tgcaagactt caggtttc tgatcgtgtg
1381  ccaaggatgt aggccttggt tgcaagacct ctgagacagt accacggccg gcatgactag
1441  gcgtggacct gcccatggtg cctgtcagtc ctagaggaag acttttagc accatgggac
```

FIG. 9A

```
1501  aggtcaaagc  atcaaggtgg  cctccatggc  tctgtcagat  taagtttcct  ccctggtata
1561  ggaccagaga  gaaccaaagg  aactgcatgg  aaacatccac  aactcagtgg  acatgcctgg
1621  tgaacccatg  taggtattca  tggttcactt  gactcttctc  tggtttctcc  ctgctgccct
1681  ggttctaggt  gggctcagct  gaggtattgt  agttgtcatg  tagtcactat  tgtgactacc
1741  tgttgtgtgc  tattgccctc  agccttcagt  gtttgcacag  aactggtgat  catacccagt
1801  gttgcctggc  ccttaagctt  ggagttgcct  agttctcagt  agttctgact  ccactgatgc
1861  attcagatta  cctgaggtgg  gtgagcatca  gtgggttctt  ggatgactgt  ttcctgacga
1921  ttcttttcat  gctgtactat  ggtgtatatg  aagggggactt  cacacttcat  ctgtactgc
1981  cactgcctgc  tctaccaacc  tgaccacct   tctcagcaag  aggctagcag  gggacaaga
2041  cacaaagctt  ccctaaggct  ctttccctcc  aaaccacctg  tgaactctta  ttctacagac
2101  tgtttggcaa  gccctgcttc  taactgtgtg  ggaagtaatc  aggagaaaat  tctgtggcct
2161  ctgtaggctg  ctcacagcat  ggaggcacca  catgctggtc  ttgggtatgt  gtcttggctg
2221  ctcagtatgg  gcaggcagg   gcacgagact  atctctctcc  ttattctcca  cagcctccct
2281  cagctctcca  gcagtcgctc  ttttacttga  cagtagaggt  tagcagcagt  tgtactcgta
2341  gaaacacact  tgtagcccgg  gaagactgga  gtcaggatgt  gttctattct  ataccacag
2401  tgaccacctg  cttcatttat  agggttagga  catatccaag  caaggcctgg  gcttggcatc
2461  aaatgaagag  ctggtatgag  agctggaagcc taaaatggct  catttgagca  atctgcaagg
2521  actattacgg  tttggggac   attggaagaa  gagtcgatac  cttggagata  tattgtttggt
2581  tcacagaaga  agaggctttg  taaatgccct  ttctatgggt  cagataaaaa  aaaa
```

FIG. 9B

```
   1  tgcctttgca gggtgacagc atggagtccc tctttcctgc cccattcctg gaggtcttgt
  61  atggcagcca ctttcaaggg aacctgtctc tcctaaatga gaccgtaccc catcacctgc
 121  tcctcaatgc tagccacagt gccttcctgc cccttggact caagtcacc atcgtggggc
 181  tctacttggc tgtgtgcatc gggggctcc tgggaactg cctcgtcatg tatgtcatcc
 241  tcaggcagtg ccctgaaaac cctctgagag gagtcttaag agagactgag gagagaagac
 301  gcatctctc tctcttgatt ccttccacaa attcacattc agcacacca agatgaagac
 361  tgctaccaac atttacatat ttaatctggc actggctgat accctggtct tgctgacact
 421  gcccttccag ggcacagaca tccttctggg cttctggcca tttgggaatg cactgtgcaa
 481  gacggtcatt gctatcgact actacaacat gtttaccagc actttcactt tgactgccat
 541  gagtgtagac cgttatgtag ctatctgcca ccctatccgt gcccttgatg ttcggacatc
 601  cagtaaagcc caggccgtta atgtggccat atgggccctg gcttcggtgg ttggtgttcc
 661  tgttgccatc atgggctcag cacaagtgga ggatgaagag atcgagtgcc tggtggagat
 721  cccgcccct caggactatt ggggccctgt atttgccatc tgcatcttcc ttttttcctt
 781  catcatcccg gttctgatca tctctgtctg ctacagcctc atgattcgac gacttcgtgg
 841  tgtccggctg ctttcaggct cccgagagaa ggaccggaac ctgcgacgca tcacacggct
 901  ggtactggta gttgtggctg tgtttgtggg ctgctggaca cctgtgcagg tctttgtcct
 961  ggttcaagga ctgggtgttc agccaggtag tgagactgca gtagccattc tgcgcttctg
1021  cacagccctg ggctatgtca acagttgtct caatcccatt ctctatgctt tcctggatga
1081  gaacttcaag gcctgcttta gaaagttctg ctgtgcttct gccctgcacc gggagatgca
1141  ggtttctgat cgtgtgcgca gcattgccaa ggatgtaggc cttggttgca cggaacctga
1201  gacagtacca cggccggcat gactaggcgt ggacctgccc atggtgcctg tcagtcc
```

FIG. 10

```
   1  tgcctttgca gggtgacagc atggagtccc tctttcctgc cccattctgg gaggtcttgt
  61  atggcagcca ctttcaaggg aacctgtctc tcctaaatga gaccgtaccc catcacctgc
 121  tcctccatgc tagccacagt gccttcctgc cccttggact caaggtcacc atcgtggggc
 181  tctacttggc tgtgtgcatc ggggggctcc tggggaactg cctcgtcatg tatgtcatcc
 241  tcagacaaca ttgtgcactt ggaagatctt tgatgaactt tacaggcagt gccctgaaaa
 301  ccctctgaga ggagtcttaa gagagactga ggagagaaga cagcatctct ctctcttgat
 361  tccttccaca aattcacatt caggcacacc aagatgaaga ctgctaccaa catttacata
 421  tttaatctgg cactggctga taccctggtc ttgctgacac tgcccttcca gggcacagac
 481  atccttctgg gcttctggcc atttgggaat gcactgtgca agacggtcat tgctatcgac
 541  gctatctgcc accctatccg tgcccttgat gttcggacat ccagtaaagc ccaggccgtt
 601  aatgtggcca tatgggccct ggcttcggtg gttggtgttc ctgttgccat catgggctca
 661  gcacaagtgg aggatgaaga gatcgagtgc ctggtggaga tccccgcccc tcaggactat
 721  tggggccctg tatttgccat ctgcatcttc cttttttcct tcatcatccc ggttctgatc
 781  atctctgtct gctacagcct catgattcga cgacttcgtg gtgtccggct gctttcaggc
 841  tcccgagaga aggaccggaa cctgcgacgc atcacacggc tggtactggt agttgtggct
 901  gtgtttgtgg gctgctggac acctgtgcag gtctttgtcc tggttcaagg actgggtgtt
 961  cagccaggta gtgagactgc agtagccatt ctgcgcttct gcacagccct gggctatgtc
1021  aacagttgtc tcaatcccat gctgtgcttc ttcttggatg agaacttcaa ggcctgcttt
1081  agaaagttct gctgtgcttc tgccctgacc cggagatggc agacagtacc acggccggca
1141  agcattgcca aggatgtagg ccttggttgc catgtggcct gtcagtccac agagcccatc
1201  tgactaggcg tgacctgcac tgctctctag gttgaccctg aactgagcgt ctggggcctt
1261  acggagctca cacaggtcac tgctcttgtt caggatgctc gaagaccttt tagcaccatg
1321  gaatggcttt tctttggtt  gtgccctcca tggctctgtc agattaagtt tcctccctgg
1381  ggacaggtca aagcatcaag gtgccctcca tggctctgtc agattaagtt tcctccctgg
1441  tataggacca gagagaacca aaggaactgc atggaaacat ccacaactca gtggacatgc
```

FIG. 11A

```
1501  ctggtgaacc  catgtgaggta  ttcatggttc  acttgactct  tctctgtttt  ctccctgctg
1561  cctggttct   aggtgggctc   agctgaggta  ttgtagttgt  catgtagtca  ctattgtgac
1621  tacctgttgt  gtgctattgc   cctcagcctt  cagtgtttgc  acagaactgg  tgatcatacc
1681  cagtgttgcc  tggcccttaa   gcttggagtt  gccttggagc  atctagttct  gactccactg
1741  atgcattcag  attacctgag   gtgggtgagc  atcagtgggt  tcttggatga  ctgtttcctg
1801  acgattcttt  tcatgctgta   ctatggtgta  tatgaagggg  acttcacact  tcatctggta
1861  ctgccactgc  ctgcctctacc  aacctgacc   accttctcag  caagaggcta  gcaggggggac
1921  aagacacaaa  gcttccctaa   ggctctttcc  ctccaaaacc  actgtgaact  cttattctac
1981  agactgtttg  gcaagccctg   cttctaactg  tgtgggaagt  aatcaggaga  aaattctgtg
2041  gcctctgtag  gctgctcaca   gcatggaggc  accacatgct  ggtcttgggt  atgtgtcttg
2101  gctgctcagt  atgggcaggg   caggcacga   gactatctct  ctccttattc  tccacagcct
2161  ccctcagctc  tccagcagtc   gctctttttac  ttgacagtag  aggttagcag  cagttgtact
2221  cgtagaaaca  cacttgtagc   ccgggaagac  tggagtcagg  atgtgttcta  ttctataccc
2281  acagtgacca  cctgcttcat   ttatagggtt  aggacatatc  caagcaaggc  ctgggcttgg
2341  catcaaatga  agagctggta   tgagagctga  agcctaaaat  ggctcatttg  agcaatctgc
2401  aaggactatt  acggttttgg   ggacattgga  agaagagtcg  atacccttga  gatatattgt
2461  tggttccacag  aagaagaggc  tttgtaaatg  ccctttctat  gggtcagata  aaaaaaaa
```
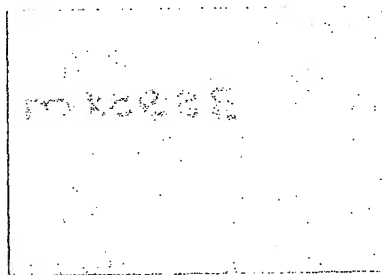
FIG. 11B

GTACTGAGTGGCTTTGCAGGGTGACAGCATGGAGTCCCTCTTTCCTGCTCCATACTGGGA
GGTCTTGTATGGCAGCCACTTTCAAGGGAACCTGTCCCTCCTAAATGAGACCGTACCCCA
CCACCTGCTCCTCAATGCTAGTCACAGCGCCTTCCTGCCCCTTGGACTCAAGGTCACCAT
CGTGGGGCTCTACTTGGCTGTGTGCATCGGGGGGCTCCTGGGGAACTGCCTCGTCATGTA
TGTCATCCTCAGCTGGGAGGGCATTGAGGGGGACTGGAGACAGCAGGCACACCAAGATGA
AGACAGCTACCAACATTTACATATTTAATCTGGCACTGGCTGATACCCTGGTCTTGCTAA
CACTGCCCTTCCAGGGCACAGACATCCTACTGGGCTTCTGGCCATTTGGGAATGCACTCT
GCAAGACTGTCATTGCTATCGACTACTACAACATGTTTACCAGCACTTTTACTCTGACCG
CCATGAGCGTAGACCGCTATGTGGCTATCTGCCACCCTATCCGTGCCCTTGATGTTCGGA
CATCCAGCAAAGCCCAGGCTGTTAATGTGGCCATATGGGCCCTGGCTTCAGTGGTTGGTG
TTCCTGTTGCCATCATGGGTTCAGCACAAGTGGAAGATGAAGAGATCGAGTGCCTGGTGG
AGATCCCTGCCCCTCAGGACTATTGGGGCCCTGTATTCGCCATCTGCATCTTCCTTTTTT
CCTTCATCATCCCTGTGCTGATCATCTCTGTCTGCTACAGCCTCATGATTCGACGACTTC
GTGGTGTCCGTCTGCTTTCAGGCTCCCGGGAGAAGGACCGAAACCTGCGGCGTATCACTC
GACTGGTGCTGGTAGTGGTGGCTGTGTTTGTGGGCTGCTGGACGCCTGTGCAGGTGTTTG
TCCTGGTTCAAGGACTGGGTGTTCAGCCAGGTAGTGAGACTGCAGTTGCCATCCTGCGCT
TCTGCACAGCCCTGGGCTATGTCAACAGTTGTCTCAATCCCATTCTCTATGCTTTCCTGG
ATGAGAACTTCAAGGCCTGCTTTAGAAAGTTCTGCTGTGCTTCATCCCTGCACCGGGAGA
TGCAGGTTTCTGATCGTGTGCGGAGCATTGCCAAGGATGTTGGCCTTGGTTGCAAGACTT
CTGAGACAGTACCACGGCCAGCATGACTAGGCGTGGACCTGCCCATGGTGCCTGTCAGCC
CTGAACCTTGAGCATCTGGAGCC

FIG. 12

GTACTGAGTGGCTTTGCAGGGTGACAGCATGGAGTCCCTCTTTCCTGCTCCATACTGGGAGGTCT
TGTATGGCAGCCACTTTCAAGGGAACCTGTCCCTCCTAAATGAGACCGTACCCCACCACCTGCTC
CTCAATGCTAGTCACAGCGCCTTCCTGCCCCTTGGACTCAAGGTCACCATCGTGGGGCTCTACTT
GGCTGTGTGCATCGGGGGGCTCCTGGGGAACTGCCTCGTCATGTATGTCATCCTCAGCTGGGAGG
GCATTGAGGGGGACTGGAGACAGCAGGCACACCAAGATGAAGACAGCTACCAACATTTACATATT
TAATCTGGCACTGGCTGATACCCTGGTCTTGCTAACACTGCCCTTCCAGGGCACAGACATCCTAC
TGGGCTTCTGGCCATTTGGGAATGCACTCTGCAAGACTGTCATTGCTATCGACTACTACAACATG
TTTACCAGCACTTTTACTCTGACCGCCATGAGCGTAGACCGCTATGTGGCTATCTGCCACCCTAT
CCGTGCCCTTGATGTTCGGACATCCAGCAAAGCCCAGGCTGTTAATGTGGCCATATGGGCCCTGG
CTTCAGTGGTTGGTGTTCCTGTTGCCATCATGGGTTCAGCACAAGTGGAAGATGAAGAGATCGAG
TGCCTGGTGGAGATCCCTGCCCCTCAGGACTATTGGGGCCCTGTATTCGCCATCTGCATCTTCCT
TTTTTCCTTCATCATCCCTGTGCTGATCATCTCTGTCTGCTACAGCCTCATGATTCGACGACTTC
GTGGTGTCCGTCTGCTTTCAGGCTCCCGGGAGAAGGACCGAAACCTGCGGCGTATCACTCGACTG
GTGCTGGTAGTGGTGGCTGTGTTTGTGGGCTGCTGGACGCCTGTGCAGGTGTTTGTCCTGGTTCA
AGGACTGGGTGTTCAGCCAGGTAGTGAGACTGCAGTTGCCATCCTGCGCTTCTGCACAGCCCTGG
GCTATGTCAACAGTTGTCTCAATCCCATTCTCTATGCTTTCCTGGATGAGAACTTCAAGGCCTGC
TTTAGAAAGTTCTGCTGTGCTTCATCCCTGCACCGGGAGATGCAGGTTTCTGATCGTGTGCGGAG
CATTGCCAAGGATGTTGGCCTTGGTTGCAAGACTTCTGAGACAGTACCACGGCCAGCATGACTAG
GCGTGGACCTGCCCATGGTGCCTGTCAGCCCACAGAGCCCATCTACACCCAACACGGAGCTCACA
CAGGTCACTGCTCTCTAGGTTGACCCTGAACCTTGAGCATCTGGAGCC

FIG. 13

TTGCAGGGCAGTGGCATGGAGCCCCTCTTCCCCGCGCCGTTCTGGGAGGTTATCTACGGC
AGCCACCTTCAGGGCAACCTGTCCCTCCTGAGCCCCAACCACAGTCTGCTGCCCCCGCAT
CTGCTGCTCAATGCCAGCCACGGCGCCTTCCTGCCCCTCGGGCTCAAGGTCACCATCGTG
GGGCTCTACCTGGCCGTGTGTGTCGGAGGGCTCCTGGGGAACTGCCTTGTCATGTACGTC
ATCCTCAGGTAGGCTGGGCCCCAAGGTTCCTGTCTGGCACACCAAAATGAAGACAGCCAC
CAATATTTACATCTTTAACCTGGCCCTGGCCGACACTCTGGTCCTGCTGACGCTGCCCTT
CCAGGGCACGGACATCCTCCTGGGCTTCTGGCCGTTTGGGAATGCGCTGTGCAAGACAGT
CATTGCCATTGACTACTACAACATGTTCACCAGCACCTTCACCCTAACTGCCATGAGTGT
GGATCGCTATGTAGCCATCTGCCACCCCATCCGTGCCCTCGACGTCCGCACGTCCAGCAA
AGCCCAGGCTGTCAATGTGGCCATCTGGGCCCTGGCCTCTGTTGTCGGTGTTCCCGTTGC
CATCATGGGCTCGGCACAGGTCGAGGATGAAGAGATCGAGTGCCTGGTGGAGATCCCTAC
CCCTCAGGATTACTGGGGCCCGGTGTTTGCCATCTGCATCTTCCTCTTCTCCTTCATCGT
CCCCGTGCTCGTCATCTCTGTCTGCTACAGCCTCATGATCCGGCGGCTCCGTGGAGTCCG
CCTGCTCTCGGGCTCCCGAGAGAAGGACCGGAACCTGCGGCGCATCACTCGGCTGGTGCT
GGTGGTAGTGGCTGTGTTCGTGGGCTGCTGGACGCCTGTCCAGGTCTTCGTGCTGGCCCA
AGGGCTGGGGGTTCAGCCGAGCAGCGAGACTGCCGTGGCCATTCTGCGCTTCTGCACGGC
CCTGGGCTACGTCAACAGCTGCCTCAACCCCATCCTCTACGCCTTCCTGGATGAGAACTT
CAAGGCCTGCTTCCGCAAGTTCTGCTGTGCATCTGCCCTGCGCCGGGACGTGCAGGTGTC
TGACCGCGTGCGCAGCATTGCCAAGGACGTGGCCCTGGCCTGCAAGACCTCTGAGACGGT
ACCGCGGCCCGCATGACTAGGCGTGGACCTGCCCATG

FIG. 14

TTGCAGGGCAGTGGCATGGAGCCCCTCTTCCCCGCGCCGTTCTGGGAGGTTATCTACGGCAG
CCACCTTCAGGGCAACCTGTCCCTCCTGAGCCCCAACCACAGTCTGCTGCCCCCGCATCTGC
TGCTCAATGCCAGCCACGGCGCCTTCCTGCCCCTCGGGCTCAAGGTCACCATCGTGGGGGCTC
TACCTGGCCGTGTGTGTCGGAGGGCTCCTGGGGAACTGCCTTGTCATGCACACCAAAATGAA
GACAGCCACCAATATTTACATCTTTAACCTGGCCCTGGCCGACACTCTGGTCCTGCTGACGC
TGCCCTTCCAGGGCACGGACATCCTCCTGGGCTTCTGGCCGTTTGGGAATGCGCTGTGCAAG
ACAGTCATTGCCATTGACTACTACAACATGTTCACCAGCACCTTCACCCTAACTGCCATGAG
TGTGGATCGCTATGTAGCCATCTGCCACCCCATCCGTGCCCTCGACGTCCGCACGTCCAGCA
AAGCCCAGGCTGTCAATGTGGCCATCTGGGCCCTGGCCTCTGTTGTCGGTGTTCCCGTTGCC
ATCATGGGCTCGGCACAGGTCGAGGATGAAGAGATCGAGTGCCTGGTGGAGATCCCTACCCC
TCAGGATTACTGGGGCCCGGTGTTTGCCATCTGCATCTTCCTCTTCTCCTTCATCGTCCCCG
TGCTCGTCATCTCTGTCTGCTACAGCCTCATGATCCGGCGGCTCCGTGGAGTCCGCCTGCTC
TCGGGCTCCCGAGAGAAGGACCGGAACCTGCGGCGCATCACTCGGCTGGTGCTGGTGGTAGT
GGCTGTGTTCGTGGGCTGCTGGACGCCTGTCCAGGTCTTCGTGCTGGCCCAAGGGCTGGGGG
TTCAGCCGAGCAGCGAGACTGCCGTGGCCATTCTGCGCTTCTGCACGGCCCTGGGCTACGTC
AACAGCTGCCTCAACCCCATCCTCTACGCCTTCCTGGATGAGAACTTCAAGGCCTGCTTCCG
CAAGTTCTGCTGTGCATCTGCCCTGCGCCGGGACGTGCAGGTGTCTGACCGCGTGCGCAGCA
TTGCCAAGGACGTGGCCCTGGCCTGCAAGACCTCTGAGACGGTACCGCGGCCCGCATGACTA
GGCGTGGACCTGCCCATG

FIG. 15

```
              10         20         30         40         50         60
mKOR 3D   MESLFPAPFWEVLYGSHFQGNLSLLNETV---PHHLLLNASHSAFLPLGLKVTIVGLYLAVCI
          ::  :::::::::: ::::  :::::::    :  ::::::::  :::::::::::::::::::
hKOR 3D   MEPLFPAPFWEVIYGSHLQGNLSLLSPNHSLLPPHLLLNASHGAFLPLGLKVTIVGLYLAVCV


              70         80         90        100        110        123
mKOR 3D   GGLLGNCLVMHTKMKTATNIYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDY
          :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
hKOR 3D   GGLLGNCLVMHTKMKTATNIYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDY
               I                              II

             130        140        150        160        170        186
mKOR 3D   YNMFTSTFTLTAMSVDRYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVE
          ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
hKOR 3D   YNMFTSTFTLTAMSVDRYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVE
               III                                  IV

             190        200        210        220        230        240        249
mKOR 3D   DEEIECLVEIPAPQDYWGPVFAICIFLFSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRN
          ::::::::::  :::::::::::::::::::::: :::  :::::::::::::::::::::::::::
hKOR 3D   DEEIECLVEIPTPQDYWGPVFAICIFLFSFIVPVLVISVCYSLMIRRLRGVRLLSGSREKDRN
                        V

             260        270        280        290        300        313
mKOR 3D   LRRITRLVLVVVAVFVGCWTPVQVFVLVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYA
          ::::::::::::::::::::::::::: :::::::  ::::::::::::::::::::::::::::::
hKOR 3D   LRRITRLVLVVVAVFVGCWTPVQVFVLAQGLGVQPSSETAVAILRFCTALGYVNSCLNPILYA
               VI                                           VII

             320        330        340        350        363
mKOR 3D   FLDENFKACFRKFCCASALHREMQVSDRVRSIAKDVGLGCKTSETVPRPA
          :::::::::::::::::::: : :::::::::: : ::::::::::::
hKOR 3D   FLDENFKACFRKFCCASALRRDVQVSDRVRSIAKDVALACKTSETVPRPA     95% Identity
```

FIG. 16

```
                  10        20        30        40        50        60
mKOR 3A   MLATVPSCPLDSRSPSWGSTWLCASGGSWGTASSCMSSSAGRALRGTGDSRHTKMKTATN
          ::  :  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
rKOR 3A   MLVTAPSCPLDSRSPSWGSTWLCASGGSWGTASSCMSSSAGRALRGTGDSRHTKMKTATN
          :   ::::::  ::::::::::: : :  :::::: ::  ::: ::  :        :::::::::
hKOR 3A   MPATAPSCPSGSRSPSWGSTWPCVSEGSWGTALSCTSSS GR-LGPKVPVWHTKMKTATN
                                                        I

                  70        80        90       100       110       120
mKOR 3A   IYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVD
          ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
rKOR 3A   IYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVD
          :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
hKOR 3A   IYIFNLALADTLVLLTLPFQGTDILLGFWPFGNALCKTVIAIDYYNMFTSTFTLTAMSVD
                    II                                          III

                 130       140       150       160       170       180
mKOR 3A   RYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPAP
          ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
rKOR 3A   RYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPAP
          ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::: :
hKOR 3A   RYVAICHPIRALDVRTSSKAQAVNVAIWALASVVGVPVAIMGSAQVEDEEIECLVEIPTP
                                                  IV

                 190       200       210       220       230       240
mKOR 3A   QDYWGPVFAICIFLFSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLV
          ::::::::::::::::::::: ::: :::::::::::::::::::::::::::::::::::::
rKOR 3A   QDYWGPVFAICIFLFSFIIPVLIISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLV
          :::::::::::::::::::: :::::::::::::::::::::::::::::::::::::::::
hKOR 3A   QDYWGPVFAICIFLFSFIVPVLVISVCYSLMIRRLRGVRLLSGSREKDRNLRRITRLVLV
                    V

                 250       260       270       280       290       300
mKOR 3A   VVAVFVGCWTPVQVFVLVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYAFLDENFK
          :::::::::::::::::::::: :::::::  :::::::::::::::::::::::::::::::
rKOR 3A   VVAVFVGCWTPVQVFVLVQGLGVQPGSETAVAILRFCTALGYVNSCLNPILYAFLDENFK
          :::::::::::::::::::: :::::: ::::::::::::::::::::::::::::::::::
hKOR 3A   VVAVFVGCWTPVQVFVLAQGLGVQPSSETAVAILRFCTALGYVNSCLNPILYAFLDENFK
                    VI                                          VII

                 310       320       330       340
mKOR 3A   ACFRKFCCASALHREMQVSDRVRSIAKDVGLGCKTSETVPRPA
          :::::::::: :::::::::::::::::::::::::::::::::
rKOR 3A   ACFRKFCCASSLHREMQVSDRVRSIAKDVGLGCKTSETVPRPA          99% Identity
          :::::::::: : : :::::::::::: : ::::::::::::::
hKOR 3A   ACFRKFCCASALRRDVQVSDRVRSIAKDVALACKTSETVPRPA          91% Identity
```

FIG. 17

FIG. 18A

551

1a

...tccag CTGGGAGGGCATTGAGGGAACTGGAGACAGCAG gtgagga....

596

FIG. 18B

2000

1c

tGctag ACAACATTGTGCACTTGGAAGATCTTTGATGAACTTTACAG GCAGTGCCCTGAAAACCCTCTGAGAGGA

1b

GTCTTAAGAGAGACTGAGGAGAGAGAAGACAGCATCTCTCTCTTGATTCCTTCCACAAATTCACATTCAG gttaga....

2150

FIG. 18C

1

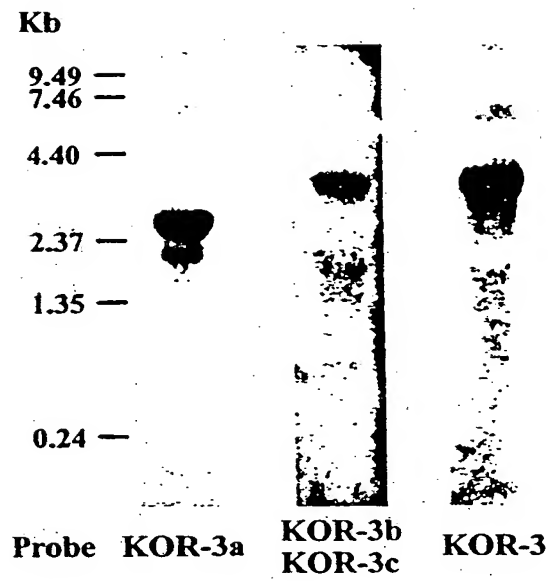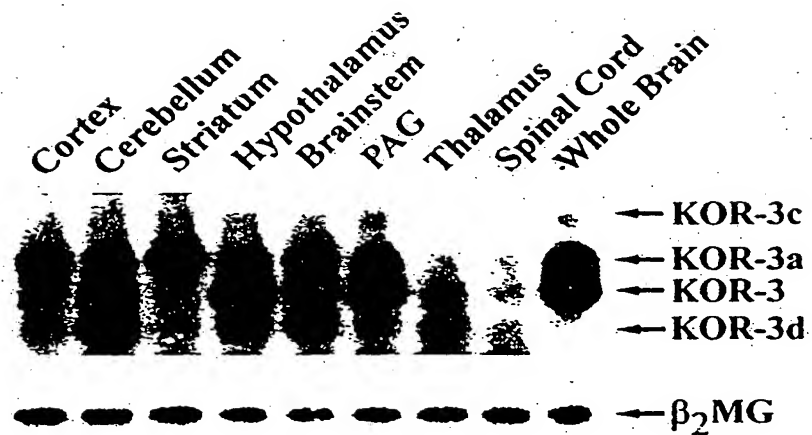GTCAGTGGGGCAGTCCTCCCCTGACCAATCAGTTCCCCATGGTTCTTGCCGGCCCCTCTGACCTCATTTCTCTCCTGCAG

81

FIG. 19

FIG. 20